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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/616,970	07/14/2000	Sergei Magnitskii	109289.00144	6524
27557	7590	05/07/2004	EXAMINER	
BLANK ROME LLP 600 NEW HAMPSHIRE AVENUE, N.W. WASHINGTON, DC 20037			BATTAGLIA, MICHAEL V	
			ART UNIT	PAPER NUMBER
			2652	10
DATE MAILED: 05/07/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/616,970

Applicant(s)

MAGNITSKII ET AL.

Examiner

Michael V Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 15-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) ✓  
Paper No(s)/Mail Date 4 ✓

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, claims 1-14, in Paper No. 9 is acknowledged. Claims 15-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim.

### *Specification*

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Glushko et al (hereafter Glushko) (US 6,071,671).

In regard to claim 1, Glushko discloses a multilayer data-registering optical disc, comprising: a transparent substrate (Figs. 9 and 12, element 7; Col. 14, lines 32-33; and Col. 16, lines 66-67); a plurality of information layers (Fig. 9, element 2 or A) on the transparent substrate,

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said information layers being spatially divided from one another by polymer layers (Figs. 9 and 12, element 8 or B and Col. 14, lines 39-42) and assembled with adhesive layers (Col. 12, lines 19-23); and a protective layer covering the plurality of information layers (Fig. 12, element 8); each of said plurality of information layers exhibiting a nonlinear response to a recording light beam (Col. 4, lines 12-13 and Col. 11, lines 54-65). Glushko discloses that recording with the two-photon absorption process, which is a non-linear excitation process that exhibits a non-linear response. In addition, Glushko discloses the use of Rhodamine 800, which is a rhodamine derivative and known to be ph-dependent, as the fluorescent dye of the information layer. Applicant discloses that non-linear response can be reached through use of a ph-dependent dye as the fluorescent dye in the information layer (Page 16, lines 18-21) and even suggests use of Rhodamine 800 as the fluorescent substance in the information layer of Example 4 (Page 19, lines 1-5). Therefore, Glushko anticipates the multilayer data-registering optical disc of the claimed invention, wherein each of said plurality of information layers exhibit a nonlinear response to a recording light beam.

In regard to claim 2, Glushko discloses the disc substrate, intermediate and adhesive layers are transparent to reading radiation (Col. 14, lines 38-48; Col. 15, lines 66-67; and Col. 20-24).

In regard to claim 3, Glushko discloses that the intermediate layers are 10-300  $\mu\text{m}$  thick (Col. 14, lines 40-41).

In regard to claim 4, Glushko discloses that all layers have similar refractive index (Col. 8, lines 5-8).

In regard to claim 5, Glushko discloses that the information layers contain spiral grooves (Figs. 15-17 and Col. 16, lines 16-17).

In regard to claim 6, Glushko discloses that the information layers define planes with a photosensitive substance applied continuously over said planes (Fig. 9, elements 8 or A; Fig. 12, elements A1-A3; and Col. 14, lines 4-7).

In regard to claim 7, Glushko discloses that a surface of each of the information layers is flooded with a solid layer of photosensitive substance, so that a portion of the solid layer above the grooves is thicker than a portion of the solid layer which is not above the grooves (Figs. 16 and 17 and Col. 16, lines 13-30). It is noted that only the fluorescent layer is disclosed to have grooves. The rest of the layers will be as shown in Figs. 9 and 12. When the information layer is flooded with the photosensitive substance, the photosensitive substance will fill the grooves, making the portion of the layer above the groove thicker than a portion without a groove.

In regard to claim 8, Glushko discloses that information surface represents spatially divided photosensitive grooves on non-photosensitive background (Figs. 16-17).

In regard to claim 9, Glushko discloses that the information layers are fluorescent WORM layers (Col. 22, lines 6-7 and 53).

In regard to claim 10, Glushko discloses that the information layers comprise a substance whose molecular structure is capable of changing due to thermochemical reactions (Col. 11, lines 54-65).

In regard to claim 11, Glushko discloses that the fluorescent WORM layers have an at least fifth-order non-linear response to the recording light beam (Col. 11, lines 54-65). Both Applicant and Glushko disclose use of Rhodamine 800 as the fluorescent dye of the WORM layers.

In regard to claim 12, Glushko discloses that the fluorescent WORM layers have threshold response to the recording light beam (Col. 10, lines 41-48 and Col. 11, lines 22-52). Writing to a fluorescent medium is performed by inducing transitions between isomeric forms. When reading

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from a medium with fluorescent WORM layers, the intensity and wavelength of reading radiation are set such that the reading radiation does not apply enough radiation to cause transitions between isomeric forms. Otherwise, the reading light would write to the layer and the layer would not be able to be read many times. Therefore, the intensity and wavelength of the recording light are set such that enough radiation is applied to the fluorescent WORM layer to cause isomeric transitions; the recording radiation surpassing the threshold amount required to cause the transitions.

In regard to claim 13, Glushko discloses that the fluorescent WORM layers respond to the recording light beam by extinguishing fluorescence (Col. 13, lines 47-54).

In regard to claim 14, Glushko discloses that the fluorescent WORM layers respond to the recording light beam by increasing fluorescence (Col. 13, lines 47-54).

#### ***Citation of Relevant Prior Art***

4. Magnitakil et al (US 6,500,602) discloses a multi-layer data registering disc comprising: a transparent substrate, intermediate polymer layers and adhesive layers that are transparent to reading light, a plurality of information layers, and a protective layer; wherein all the layers have similar refractive indexes and the information layers are made with fluorescent dyes that are capable of exhibiting non-linear response to a recording light beam (Figs. 1 and 2). Shimada et al (US 6,335,522) discloses a fluorescent recording medium that is read with a reading light that is below the threshold of the recording operation (Fig. 16 and Col. 18, lines 29-32). Fisher et al (US 5,829,448) discloses non-linear two-photon excitation (Fig. 1). Li et al (US 5,981,958) discloses fitting a fifth-order polynomial to the measured fluorescence response from a live leaf (Col. 9).

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*Conclusion*

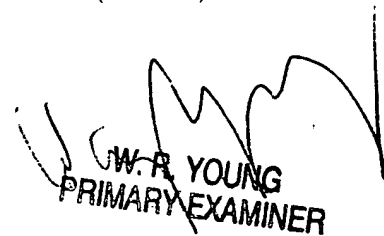
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Battaglia



W. R. YOUNG  
PRIMARY EXAMINER